

Table 1. Responses to Comments Received January 15, 2021 on the February 14, 2020 Remedial Investigation (RI) Report
Northwest Pipe Company

Department of Environmental Quality (DEQ) Comment on the Feb. 2020 RI Report		Northwest Pipe Company (NWP) Response
<i>General Comment</i>	<p><i>DEQ anticipates issuing a Conditional No Further Action (cNFA) determination after the Source Control Decision (SCD) is published. The SCD will be based on the Monitored Natural Attenuation (MNA) assessment for the potential groundwater discharges of Volatile Organic Compounds (VOCs) to Terminal 4, Slip 1. DEQ understands that the purpose of the MNA evaluation is to support the assumption that natural attenuation of the groundwater plume is occurring and is sufficient to prevent current and future impacts to the Willamette River.</i></p> <p><i>The MNS assessment will include additional monitoring wells installed in the assumed centerline of the contaminant plume. Additional monitoring wells may be required if unexpected levels of VOCs are detected. DEQ and NWP will consider the next steps following evaluation of investigations to develop the MNA work plan.</i></p> <p><i>If the MNA assessment indicates exceedances of screening levels, then additional remedial evaluations may be necessary to complete the final cNFA and SCD. DEQ will not issue the SCD or cNFA until approval and implementation of the MNA work plan.</i></p>	Noted.
<i>1. Executive Summary</i>	<p><i>DEQ anticipates issuing a cNFA determination following the approval and implementation of a MNA plan and issuing a SCD with MNA as a source control measure that is not yet verified. The final SCD is dependent on the successful demonstration that natural attenuation is sufficient to prevent VOC groundwater impacts to the Willamette River. DEQ intends to issue a cNFA determination that includes the necessary conditions to manage site risks.</i></p>	Pursuant to the conversation between NWP and DEQ on 2/18/21, NWP understands that a SCD is anticipated when the MNA Work Plan is approved. In addition, NWP understands that the DEQ does not intend for the SCD to be contingent on "successful demonstration" of MNA.
<i>2. Section 2.1 Site Location and Description</i>	<p><i>The Schnitzer site does not technically perform "ship breaking" activities currently. Barges have been salvaged at the site, but the process does not qualify as ship breaking. Please correct this statement.</i></p>	The reference to "ship breaking" will be edited as requested has been modified to clarify.

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3. Sections 5.1.1.4, 5.1.4, Tables 8-2 and 8-3. Carcinogenic PAHs	<i>In 2015, DEQ specified that chemical classes, including carcinogenic PAHs (cPAHs), should be evaluated as single substances. The appropriate acceptable risk level for carcinogens is a one in one million excess cancer risk. Carcinogenic PAHs were not evaluated using benzo[a]pyrene equivalents in this report. It appears that the cPAH excess cancer risk to construction workers exposed to surface soils is about a third greater than the risk from benzo[a]pyrene exposure. For subsurface soils, the cPAH risk is about twice the risk as from benzo[a]pyrene exposure. This method does not change the overall cumulative risk calculations. DEQ is not requesting changes to the RI Report addendum for this issue.</i>	Noted.
4. Section 6.2.2.1 Groundwater Flow Characteristics of the Southeast Area	<i>DEQ disagrees with the statement that the historic offsite location of Gatton Creek prevents it from acting as a preferential flow path. Additional investigation is required to demonstrate that the former Gatton Creek is not acting as a preferential groundwater flow path. DEQ expects this data gap to be addressed in the MNA work plan.</i>	<u>Noted.</u> NWP has agreed to include DEQ's requested additional soil gas monitoring points as discussed in the 6 November 2020 meeting on the Passive Soil Gas Work Plan. The revised work plan was submitted on December 29, 2020 and approved by DEQ on January 6, 2021. The issue was raised prior to the approval of NWP's Passive Soil Gas (PSG) Sampling Work Plan, and NWP agrees that it will be addressed in the PSG efforts and the future MNA work plan.
5. Section 8.3.1.1 Soil	<i>The statement: The arsenic Exposure Point Concentration (EPC) of 12.1 mg/kg only slightly exceeds DEQ's default arsenic background level of 8.8 mg/kg, which shows that most (if not all) arsenic measured in surface soil is attributable to naturally occurring background levels It is not correct to compare estimates of means with UPLs. An EPC above the background soil UPL for arsenic is an indication that arsenic is present above background levels. Please correct this information in the addendum to the RI Report.</i>	The text comparing the 90% UCL of the mean to DEQ's default background levels will be removed. Additional information has been included discussing the potential contribution of natural-occurring arsenic background levels. For example, arsenic levels were detected below DEQ's default background level at 9 of the 10 sample locations where arsenic was analyzed.
6. Section 8.4.4 Toxicological Data and Risk Characterization	<i>The report references that Chromium III/VI was compared to the DEQ 2013 Oregon Background Metals Concentration in Soil as shown in Table 8-10. Hexavalent chromium is not discussed in DEQ's 2013 background soil report. Further details on hexavalent chromium screening need to be provided to support statements regarding background levels. Provide this information in the addendum to the RI Report.</i>	The ratio of hexavalent and total chromium results from the database DEQ used to develop the 2013 Oregon Background Metals Concentrations in Soil was used for the chromium calculations. While DEQ's document does not specifically mention hexavalent chromium, the database provides the results. Text will be edited to provide additional details.

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		Agreed. Chromium III/VI ratio could not be confirmed in the DEQ background dataset and the related text and reference has been removed in the uncertainty section.
7. Section 8.5 Risk Screening Conclusions	<i>This section states "Conclusions from the human health risk screening for soil are that, although the maximum detected concentrations of PAHs, arsenic, and PCBs exceed RBCs individually, overall aggregate risks do not exceed the DEQ target cumulative ELCR of 1E-05". While this is a correct statement, we do not want an implication that acceptable risk is evaluated only on a cumulative basis. DEQ suggests the statement be modified as: "Conclusions from the human health risk screening for soil are the maximum detected concentrations of PAHs, arsenic, and PCBs that exceed RBCs individually, indicating unacceptable risk. Overall aggregate risks do not exceed the DEQ target cumulative ELCR of 1E-05". Please revise this statement as suggested in the amended RI report addendum.</i>	Text will be revised to say "Conclusions from the human health risk screening for soil are that, 1) maximum detected concentrations for several individual contaminants (PAHs, arsenic, and PCBs) exceed RBCs based on the DEQ target ELCR of 1E-06 and 2) overall aggregate risks do not exceed the DEQ target cumulative ELCR of 1E-05".
8. Section 9.2 Groundwater	<i>Site characterization data does not support the statement that groundwater in the Southeast Area is well characterized. Significant VOC contamination remains onsite. The offsite monitoring well network is not sufficient to evaluate the extent of VOC impact because of the limited offsite network of monitoring wells, significant spacing between wells, and the potential for Gatton Creek to be a groundwater preferential pathway. Please add an evaluation of these issues in the addendum to the RI Report.</i>	The future MNA WP will include the installation of additional off-site wells and will address these issues. The monitoring well coverage in the interior of the plume, downgradient of the NWP property, will be enhanced based on the results of the Passive Soil Gas Work Plan and the MNA workplan to follow. Regarding the hypothetical role of Gatton Creek as a preferential groundwater flow path, NWP has agreed to include DEQ's requested additional soil gas monitoring points as discussed in the 6 November 2020 meeting on the Passive Soil Gas Work Plan. The revised work plan was submitted on December 29, 2020 and approved by DEQ on January 6, 2021. The issue was raised prior to the approval of NWP's Passive Soil Gas (PSG) Sampling Work Plan, and NWP agrees that it will be addressed in the PSG efforts and the future MNA work plan.
9. Tables 5-1, 5-2, and 6-1	<i>Color-coding is used to show that different exposure scenarios are used as the basis for exceedance ratios. This may appear to minimize risk because higher RBCs are used</i>	The tables were revised as requested.

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	<p><i>in the ratios. Please modify the tables to show the maximum exceedance ratio, which will give a better representation of relative risk.</i></p>	
<p>10. Tables 8-2 and 8-3</p>	<p><i>These tables provide summaries of the statistics for surface and subsurface soil sampling results. They are supported by an Excel spreadsheet. The 90UCL calculations were correctly started by calculating the 95UCL, noting the statistical method recommended by EPA, and using method this to determine the 90UCL. In most cases, this is straightforward. However, for some of the chemicals, EPA's recommendation for determining the 95UCL is to use a higher method to achieve 95% coverage. For example, a 97.5% KM Chebyshev UCL may be recommended as the 95UCL. In this case, DEQ's guidance is to use the 95% KM Chebyshev UCL, not the 90% KM Chebyshev UCL, for the 90UCL. Where EPA recommends the 99% Chebyshev (Mean, SD) for the 95UCL, DEQ's guidance is to use the 97.5% Chebyshev (Mean, SD) for the 90UCL.</i></p> <p><i>DEQ checked some of the UCL calculations and found instances where a different calculation method should be used to determine the 90UCL. These revisions are shown in Table DEQ-1. (Not reproduced here)</i></p> <p><i>We also note that in at least two instances, EPA's ProUCL output highlighted method and value did not match the recommended method and value. This occurred for Aroclor 1254 for both surface soil and subsurface soil, where the 97.5% KM Chebyshev UCL was highlighted in the spreadsheet as if this were the recommended approach, but the 95% KM Chebyshev UCL was recommended by ProUCL for the 95UCL. The values for Aroclor 1254 presented in Tables 8-2 and 8-3 are consistent with EPA's recommendations and DEQ's guidance, so no revisions are required.</i></p>	<p><u>Noted-Text in Section 8.2 was modified. EPCs were updated per DEQ's recommended UCL selection process which modified Table 8-2 and Table 8-3.</u></p>
<p>11. Figure 7-3.</p>	<p><i>The Conceptual Site Model does not appear to match the evaluations presented in the text. The industrial use of groundwater is not included and volatilization pathways are not identified as being for soil or groundwater. Please correct the figure in the addendum to the RI Report.</i></p>	<p>Figure was edited as requested.</p>